

WHAT IS CLAIMED IS:

1. A gyroscopic exercise device, comprising:
 - a housing having an annular path;
 - a first handle coupled to one side of the housing;
 - a second handle coupled to an opposite side of the housing;
 - a shaft having a first end and a second end and a first axis, the shaft rotatably coupled to the housing about the first axis, the first end and the second end rotatably mounted in the annular path; and
 - a rotor coupled to the shaft between the first end and the second end of the shaft.
2. The device of Claim 1, wherein the handles are coaxial.
3. The device of Claim 2, wherein the annular path is within a plane that is perpendicular to the handles.
4. The device of Claim 1, further comprising:
 - a power supply;
 - a drive assembly within the housing comprising a motor for spinning the rotor;
 - and
 - a conductive conduit having a power terminal at one end and a drive terminal at the other end, the power terminal receives energy from the power supply, the drive terminal provides energy to the drive assembly, the conductive conduit rotates as the drive assembly rotates.
5. The device of Claim 1, wherein the annular path is formed by a race insert coupled to the housing.
6. The device of Claim 1, further comprising:
 - a motor for rotating the rotor; and
 - a ring guide having a portion slidably disposed within the annular path, and the ring guide having a platform supporting the motor.
7. The device of Claim 6, wherein the motor generates electricity from the rotation of the rotor.

8. The device of Claim 1, wherein the handles are configured so that moving the handles in a cone-like motion causes precession of the rotor.

9. The device of Claim 1, further comprising a power supply within one of the handles.

10. The device of Claim 9, further comprising a motor that rotates the rotor and receives power from the power supply.

11. A gyroscopic exercise device, comprising;

a first handle;

a second handle;

a shaft;

a housing coupled to the handles, the housing defining a circular path for the ends of the shaft, the circular path and an axis of the shaft define a plane, the first handle being located on one side of the plane and the second handle being located on other side of the plane; and

a rotor coupled to the shaft between the shaft ends.

12. The device of Claim 11, further comprising:

a power supply in the first handle;

a ring guide slidably coupled to the housing; and

a motor coupled to the ring guide configured to rotate the shaft.

13. The device of Claim 12, further comprising a switch coupled to one of the handles to control the energy from the power supply to the motor.

14. A method of exercising with a gyroscopic exercise device, comprising:

rotating a rotor about a first axis, defined by a shaft that is coupled to the rotor;

providing a pair of handles to hold the gyroscopic exercise device; and

rotating the rotor and the shaft about a second axis, which is perpendicular to the first axis, by moving the handles along orbital paths.

15. The method of Claim 14, further comprising:

providing a motor that rotates the rotor about the first axis; and

providing a motor holder that rotates about the second axis as the handles travel along the orbital paths.

16. The method of Claim 15, wherein the orbital paths are cone-like.

17. A gyroscopic exercise device, comprising;

a housing;

a pair of handles coupled to the housing;

a gyroscope within the housing;

a drive wheel that rotates the gyroscope;

a motor having a shaft which is coupled to the drive wheel;

a conductive contact having a power supply end and a motor end, the conductive contact rotates about an axis that passes through the power supply end; and

a power supply in communication with the power supply end of the conductive contact, the motor end of the conductive contact being in communication with the motor, the power supply being capable of providing energy through the conductive contact to the motor.

18. The device of Claim 17, wherein the power supply is located in one of the handles and includes a battery.

19. The device of Claim 17, wherein the power supply is a battery, and the power supply end of the conductive contact has a pair of terminals in communication with the power supply.

20. A gyroscopic device, comprising:

a motor connected to drive a gyroscope rotor;

a power supply to provide electrical energy;

a fixed conductive conduit having a first portion that receives electrical energy from the power supply and a second portion that delivers electrical energy to the power supply; and

a rotatable conductive conduit comprising a first conductor electrically connecting a first portion to the motor, and a second conductor electrically connecting

the motor to the second portion, the rotatable conductive conduit being rotatable about an axis passing through the fixed conductive conduit.

21. The device of Claim 20, further comprising:

a ring guide; and

a rotor having a shaft that is rotatably engaged with the ring guide, wherein the motor and the rotatable conductive conduit are coupled to the ring guide.

22. The device of Claim 20, wherein said fixed conduit first portion includes a tubular shape and said second portion extends within the first portion; and
an insulator separates the first and second portions.

23. The device of Claim 20, wherein the first conductor can receive electrical energy from the first portion and the second conductor can deliver electrical energy to the second portion while the rotatable conductive conduit rotates about the axis passing through the fixed conduit.

24. A gyroscopic exercise device, comprising:

a power source;

a drive wheel; and

a gyroscopic inertia wheel having a drive race and an axis of spin, the drive wheel being energized by the power source and contacting the drive race so that the drive race rotates about the axis of spin as the drive wheel rotates.

25. The device of Claim 24, further comprising a motor connected to the drive wheel that can receive energy from the power source and provide an output torque to energize the drive wheel, wherein the power source is a battery.

26. The device of Claim 25, further comprising a radial ring guide, the motor mounted to the radial ring guide, and the gyroscopic inertia wheel diametrically rotatably attached to the ring guide.

27. A gyroscopic exercise device, comprising:

a ring guide;

an inertia wheel that can rotate;

a power source; and

a motor coupled to the ring guide, wherein the motor is configured so that when energized from the power source, the motor causes the inertia wheel to rotate for a start-up cycle so that the inertia wheel spins at an operational velocity, and after the start-up cycle the motor can generate a feedback voltage.

28. The device of Claim 27, further comprising an LED that is illuminated by the feedback voltage.

29. The device of Claim 27, further comprising a plurality of LEDs, each LED being illuminated in sequence to indicate changes of an angular velocity of the inertia wheel by the feedback voltage from the motor.

30. The device of Claim 27, wherein the power source is a rechargeable battery and the feedback voltage can recharge the rechargeable battery.

31. The device of Claim 30, further comprising:

a housing that holds the ring guide; and

a pair of handles attached to the housing, and the rechargeable battery is disposed within one of the handles.

32. A handheld exercise device, comprising:

a housing comprising a circular race having a first surface and a second surface; and

a shaft having a tapered roller drive pinion at both ends, the tapered roller drive pinions engage with the circular race and have surfaces configured to mate with the race surfaces.

33. The device of Claim 32, further comprising a ring guide having a radially tapered periphery having a first guide surface and second guide surface, the first guide surface is substantially parallel to the first surface of the circular race and the second guide surface is substantially parallel to the second surface of the circular race, and the radially tapered periphery can slide along the circular race.

34. The device of Claim 33, wherein the surface of one of the tapered roller drive pinions has two diametrically opposing portions, one of the portions is substantially parallel to the first surface of the circular race and the other portion is substantially parallel to the second surface of the circular race.

35. The device of Claim 34, wherein the housing further comprises a race insert that defines the annular race.

36. A handheld gyroscopic exercise device, comprising:

a housing;

a rotor within the housing; and

a handle attached to the housing and having a switch, which when activated causes the rotor to rotate.

37. The handheld gyroscopic exercise device of Claim 36, further comprising:

a motor;

a power supply; and

wherein the switch is at one end of the handle and the other end of the handle is attached to the housing, and when the switch is activated the power supply provides energy to the motor, which rotates the rotor.

38. A gyroscopic exercise device, comprising:

a gyroscopic energy wheel having a shaft;

a bearing pad rotatably coupled to the shaft; and

a ring guide having diametrically spaced notches to receive the bearing pad, the bearing pad being between the ring guide and the side of the shaft.

39. The device of Claim 38, further comprising a housing having an annular path, the bearing pad and the ends of the shaft engaged with the annular path so that the bearing pad and the ring guide move together along the annular path.

40. The device of Claim 39, wherein the bearing pad comprises a first and a second bearing pad, the first bearing pad between the ring guide and the side of the shaft end and the second bearing pad between the ring guide and the side of the other shaft end.

41. A gyroscopic exercise device, comprising:

a rotor;

a drive assembly including a motor; and

a ring guide having a circular shaped outer periphery and an integral inner platform, the drive assembly being mounted to the platform so that drive assembly can rotate the rotor.

42. The device of Claim 41, wherein the ring guide defines a plane and has a substantially uniform thickness.

43. The device of Claim 41, further comprising a housing having two attached handles and slidably holding the ring guide, and wherein the drive assembly has a motor attached to the ring guide.

44. The device of Claim 43, further comprising a conduit that provides power to the motor, and wherein the drive assembly is connected to the conduit and has a bracket that couples the motor to the ring guide.

45. A gyroscopic exercise device, comprising:
a shaft;
a pair of handles; and
a pair of diametrically, intersecting rings that are substantially perpendicular to each other, the pair of handles attached at opposite ends of one of the rings and the shaft being rotatably, slidably mounted to the other ring.

46. The device of Claim 45, further comprising a generally spherical cover that fills the openings between the pair of rings.

47. The device of Claim 46, wherein the shaft rotates and slides in a plane perpendicular to the pair of handles.

48. The device of Claim 46, further comprising:
a motor to rotate the shaft; and
a power supply in one of the handles that provides power to the motor.

49. A gyroscopic exercise device, comprising:
means for rotating a shaft about its spin axis and for permitting shaft ends to slide along an annular path; and
means for gripping the gyroscopic exercise device on opposite sides of the annular path.

50. The device of Claim 49, further comprising means for providing power to a motor to rotate the shaft while the motor and shaft slide along the annular path in the housing.